# Country Club Lawn and Tree Specialists Inc.

# Training Manual

## **New Pilot Training Schedule**

All new pilots must complete the following training schedule before operating.

#### Education

| Digital Education                   |
|-------------------------------------|
| Introduction to UAS Operation       |
| Operations Manual Review            |
| UAS Sub Systems                     |
| Spray Mission Concept of Operations |
| Safe Mission Planning               |
| Pre-Flight Checklist                |
| Maintenance Manual Review           |
| Daily Maintenance Checklist         |
| Software and Training Manual Review |
| AgroSol Flight Simulator            |
| Li-Po Battery Management            |
| Regulation                          |
| Safety                              |

| Field Training                        |
|---------------------------------------|
| Battery Charging                      |
| Calibrations                          |
| UAS Set-Up                            |
| Pre-Flight Checklist                  |
| Mission Planning: Field Marking       |
| Mission Planning: Flight Parameters   |
| AgroSol Flight Control                |
| Emergency Procedures: AgroSol Control |
| Emergency Procedures: Manual Control  |
| Manual Flight Control                 |
| Daily Maintenance Checklist           |

#### <u>Assessment</u>

| Written Assessment          |
|-----------------------------|
| UAS Sub Systems             |
| Safe Mission Planning       |
| Pre-Flight Checks           |
| Daily Maintenance Checklist |
| Li-Po Battery Management    |
| Safety                      |

#### **Operational Assessment**

Mission Planning:

10 Hours Field Marking (15 mission minimum) 15 Missions Generated

Spray Operation:

10 Flight Hours

(35 flight minimum)

#### **Recurring Pilot Training Schedule**

All pilots must complete the following recurring training schedule **every 6 months** after initial training and certification.

#### **Education**

#### **Digital Education**

**Operations Manual Review** 

Maintenance Manual Review

Software and Training Manual Review

Li-Po Battery Management

Safety

#### **Field Training**

**Pre-Flight Checklist** 

Emergency Procedures: AgroSol Control

Manual Flight Control

**Emergency Procedures: Manual Control** 

#### Assessment

#### **Written Assessment**

**Operations Manual Review** 

Maintenance Manual Review

Software and Training Manual Review

Li-Po Battery Management

Safety

**Operations Manual Review** 

| Operational Assessment |
|------------------------|
| Mission Planning:      |
| 2 Hours Field Marking  |
| (2 mission minimum)    |
| 2 Missions Generated   |
| Spray Operation:       |
| 2 Flight Hours         |
| (7 flight minimum)     |

### **Digital Education: Unit Objectives**

| Mission Computer Set Up                  | 15 min |
|--|--------|
| Software Installation                    |        |
| Manuals File Transfer                    |        |
| Introduction to UAS Operation            | 15 min |
| State of the Industry                    |        |
| UAS in Agriculture                       |        |
| Safety Culture                           |        |
| Operations Manual Review                 | 20 min |
| Navigating the Manual                    |        |
| High Level Review                        |        |
| Homework Assignment: Study Entire Manual |        |
| UAS Sub Systems                          | 15 min |
| Propulsion                               |        |
| Power                                    |        |
| Communications                           |        |
| Spray                                    |        |
| Sensor (Radar, GPS, IMU)                 |        |
| Flight Controller                        |        |
| Spray Mission Concept of Operations      | 10 min |

| Standard Mission                                      |        |
|---|--------|
| Advanced Mission                                      |        |
| Safe Mission Planning                                 | 15 min |
| Mission Settings                                      |        |
| Drone Settings  |        |
| Terrain Considerations                                |        |
| Pre-Flight Checklist                                  | 5 min  |
| Detailed Instructions                                 |        |
| Purpose of Each Check                                 |        |
| Maintenance Manual Review                             | 30 min |
| Navigating the Manual                                 |        |
| High Level Review                                     |        |
| Homework Assignment: Study Entire Manual              |        |
| Daily Maintenance Checklist                           | 5 min  |
| Detailed Instructions                                 |        |
| Purpose of Each Check                                 |        |
| Software and Training Manual Review                   | 30 min |
| Navigating the Manual                                 |        |
| High Level Review                                     |        |
| Homework Assignment: Study Entire Manual              |        |
| AgroSol Flight Simulator                              | 30 min |
| Practical Software Overview                           |        |
| Maintenance, Planning, Operations Navigation Practice |        |
| Li-Po Battery Management                              | 10 min |
| Safe Use and Storage                                  |        |
| Maximize Asset Longevity                              |        |
| Regulation  | 10 min |
| Pesticide Applicator License                          |        |
| Part 107 License                                      |        |
| 44807 Exemption                                       |        |
| Part 137 License                                      |        |
| COA   |        |
| Aircraft Registration                                 |        |
| Safety  | 30 min |
| Chemical Drift Considerations                         |        |
| Chemical Management                                   |        |

| Flight Envelope               |                     |
|-------------------------------|---------------------|
| Conservative UAS Operation    |                     |
| Emergency Procedures: AgroSol |                     |
| Emergency Procedures: RC      |                     |
|                               | Total time:<br>4 hr |

# Field Training: Unit Objectives

| Battery Charging                | 5 min  |
|---------------------------------|--------|
| Normal Charge                   |        |
| Storage Charge                  |        |
| Accurate Charge                 |        |
| Calibrations                    | 30 min |
| Level                           |        |
| Accelerometer                   |        |
| Compass                         |        |
| Flowmeter                       |        |
| Voltage                         |        |
| UAS Set-Up                      | 15 min |
| Set-Up Procedure                |        |
| Tear-Down Procedure             |        |
| Transport Tips                  |        |
| Pre-Flight Checklist            | 15 min |
| Checklist Tips                  |        |
| Checklist Practice              |        |
| Mission Planning: Field Marking | 20 min |
| Marking Tips                    |        |

| Marking Practice                      |                            |
|---------------------------------------|----------------------------|
| Mission Planning: Flight Parameters   | 20 min                     |
| Drawing Mission Areas                 |                            |
| Mission/Drone Settings Tips           |                            |
| Mission Creation & Upload Practice    |                            |
| AgroSol Flight Control                | 35 min                     |
| Flight Control Buttons                |                            |
| Reading UAS Status Information        |                            |
| Mission Re-Upload                     |                            |
| Mission Practice                      |                            |
| Emergency Procedures: AgroSol Control | 20 min                     |
| RTL                                   |                            |
| Pause/Move                            |                            |
| Emergency Kill                        |                            |
| Land                                  |                            |
| Emergency Procedures: Manual Control  | 15 min                     |
| Manual Takeover                       |                            |
| Force RTL/Land Mode                   |                            |
| Emergency Kill                        |                            |
| Manual Flight Control                 | 20 min                     |
| Arm/Disarm                            |                            |
| Take Off/Land                         |                            |
| Flight Control Tips                   |                            |
| Manual Flight Practice                |                            |
| Daily Maintenance Checklist           | 15 min                     |
| Checklist Tips                        |                            |
| Checklist Practice                    |                            |
|                                       | Total time:<br>3 hr 30 min |